

Serial No. 10/747,781
60130-1734

REMARKS

Claims 7-11 and 16 have been withdrawn from consideration. Claims 1-6, 12-15 and 17-22 remain under consideration in this application.

The specification was objected to for not providing antecedent basis for subject matter recited in claim 18. Claim 18 has been amended to correct this minor informality. The amendment is supported by the specification as originally filed. No new matter has been added.

Claims 1, 8, 12-15, 18, 19, 21 and 22 were rejected as being anticipated by Beuchle et al. (U.S. 3,207,267). Claims 1 and 14 require that the angle be changed to control a gain in braking force. Claim 19 recites an applied force and a gain in braking force and requires the varying of the angle of the support to control a gain in braking force. Buechle et al. does not include any structure to control a gain in braking force. Buechle et al. does disclose a brake that can control an applied force, as any brake assembly can. However, the gain in braking force provided by the self-energizing feature cannot be varied as is required by claims 1 and 14.

In Buechle et al. the gain in braking force is provided by the V-groove (16) that causes inward movement of the brake shoes (11) responsive to the application of force applied by the humps (21). However, the V-groove (16) is not variable and therefore can only provide a single level or rate of brake force amplification. The claimed invention requires the variation or adjustment of this gain in force such that the gain can be controlled. Accordingly, the claims include limitations that are directed to controlling gain through the selective variation of an angle independent of the application force to vary the self-energizing gain provided by the brake assembly. Beuchle et al. does not disclose or suggested such control of braking force gain as the V-groove (16) cannot be adjusted. For this reason Buechle et al. cannot anticipate the limitations in claims 1, 14 and 19.

Claim 12 requires that the brake pad contact an outer perimeter of the rotatable brake member. The Beuchle et al. device contacts planer surfaces, not the outer perimeter as is required. Accordingly Beuchle et al. cannot anticipate claim 12.

Claim 15 requires the step of varying the angle relative to the gain in braking force. In Beuchle et al. the gain in braking force is provided by the cooperation between the fixed V-groove (16) and the pin and roller (14,15). There is no way to vary the angle of the V-groove to adjust the gain, and therefore Beuchle et al. cannot meet this limitation.

Serial No. 10/747,781
60130-1734

Claim 22 further defines the braking force as comprising a constant applied force and a generated gain component that is provided by the self-energizing brake assembly, where the generated gain component is controlled by varying the angle of the support. As discussed above, the control of the gain in braking force above the applied brake force is not present in Beuchle et al. Beuchle et al. merely controls the application of force as is known, not the gain provided by the self-energizing features. Accordingly, Beuchle et al. cannot anticipate the claimed limitations.

Claims 1-6, 12-15, 17 and 18-22 were rejected as being anticipated by German Patent DE 1169218 to Hildebrand. DE '218 is entirely in German and no English abstract or corresponding patent is known to exist. Accordingly, if the rejections over DE '218 are to be maintained, a full translation of this patent should be obtained to allow Applicant an opportunity to examine the full disclosures of the DE '218 patent.

As best understood by review of Figure 1, the DE'218 patent cannot anticipate the limitations of claims 1, 14 and 19. Claims 1, and 19 require a brake pad movable along a support, where that support is pivotally mounted at an angle relative to a rotatable brake member such that the angle of the support is variable for controlling a gain in braking force. Claim 14 is a method that requires a change in angle of a support to control a gain in braking force.

In the DE '218 patent the brake pads are attached to members (23), and (7). The member (7) does not pivot as it can move only axially along the shaft (1) as indicated by arrow (5). Further, the member (23) can only pivot about a pivotal connection to link (25). There is no movement of the brake pads along the support as a pinned pivotal connection does not allow movement along a support.

Further, there is not even any structure or mechanism shown that would provide for an amplification of braking force. Moving the member (7) toward the brake disk (3) would be transmitted through spring (27) to link (17) and then through link (19) to link (25) causing movement of member (23) away from the brake disk (3). It is not clear from the Figure or the explanation provided in the office action even how the DE '218 brake operates. Further, the structure shown cannot operate and does not disclose the limitations required by claims 1 and 19. Additionally, the dependent claims include limitations not found in DE '218.

Serial No. 10/747,781
60130-1734

Claim 2 requires that the brake pad comprise a wedge and a friction element pivotally mounted to the wedge. The office action reads element 13 as a wedge and elements 7, 17 and 27 as friction element pivotally connected through connection 17. None of the elements 7, 17 or 27 are friction elements. Element 7 is a support that moves along the shaft 1, element 17 is a link, and element 27 is a spring. Nothing shows the recited configuration.

Claim 3 requires that the rotatable brake element drives the brake pad along a support toward the rotatable brake member to increase braking force. The only sliding portion is the element 7 that can only moves perpendicular to the brake member (3) and therefore cannot meet the limitations of claim 3.

Claim 4 requires an adjustable member biasing the support toward the brake member. The only portion in DE '218 shown toward the brake member (3) is arrow 5, that is not any indicative in any way of an adjustable member. The spring (27) appears to be pulling away from the brake member (3) toward the link (17). Again a translation of the specification is likely to clear up any misunderstanding of the operation of the device disclosed in the DE '218 patent.

Claim 5 requires that the adjustable member is compliant, and claim 6 recites that the adjustable member is a linear actuator. Neither of which are disclosed in DE '218.

Accordingly, this rejection should be withdrawn. Again, if this rejection is to be maintained, a full translation should be obtained to provide both Applicant and Examiner a clear understanding for appeal purposes.

Applicant has addressed each objection and rejection and believes that the claims are now in condition for allowance. No additional fees are seen to be required. If any additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C., for any additional fees or credit the account for any overpayment. Therefore, favorable reconsideration and allowance of this application is respectfully requested.

Serial No. 10/747,781
60130-1734

Respectfully Submitted,

CARLSON, GASKEY & OLDS, P.C.



John M. Siragusa

Registration No. 46,174

Attorneys for Applicant

CARLSON, GASKEY & OLDS, P.C.

400 West Maple Road, Suite 350

Birmingham, Michigan 48009

(248) 988-8360

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